

Research Dashboards User Guide

USC Office of the Vice President for Research

The [Office of the Vice President for Research](#) is proud to partner with the [USC Office of Institutional Research, Assessment and Analytics](#) to share data on USC's research enterprise to help our research community gain a better understanding of our strengths and strategize new ways to make it even stronger. This guide provides information to help users get up to speed on our research dashboard tools, available on the Office of the Vice President for Research website.

The Office of the Vice President for Research offers two research dashboards

- **[The Sponsored Awards Dashboard](#)**: The Sponsored Awards Dashboard, updated monthly, provides customizable graphs and charts detailing incoming funding from USC's federal, state, local and private funders. Compare data from different points in time or funding for different purposes, track overall funding or zoom into the data by campus and college using the Sponsored Awards Dashboard.
- **[The Research Expenditures Dashboard](#)**: Drawing from the annual National Science Foundation Higher Education Research and Development Survey (NSF HERD Survey), the Research Expenditures Dashboard offers a high-level view of USC's research spending. With data on both federal and non-federal research expenditures, this dashboard displays research spending trends over time and by source, including a breakdown of top federal sponsors.

About this Guide

This guide explains how to view and interact with these two [USC Research Dashboards](#) on a laptop or desktop computer. The Research Dashboards will display on a mobile device like a phone or tablet, but some functions may not be available when interacting with the dashboards on a mobile device. **The Office of the Vice President for Research recommends using a laptop or desktop computer to view and interact with the dashboards for an optimal user experience.**

If you have questions, please [contact the Office of the Vice President for Research](#).

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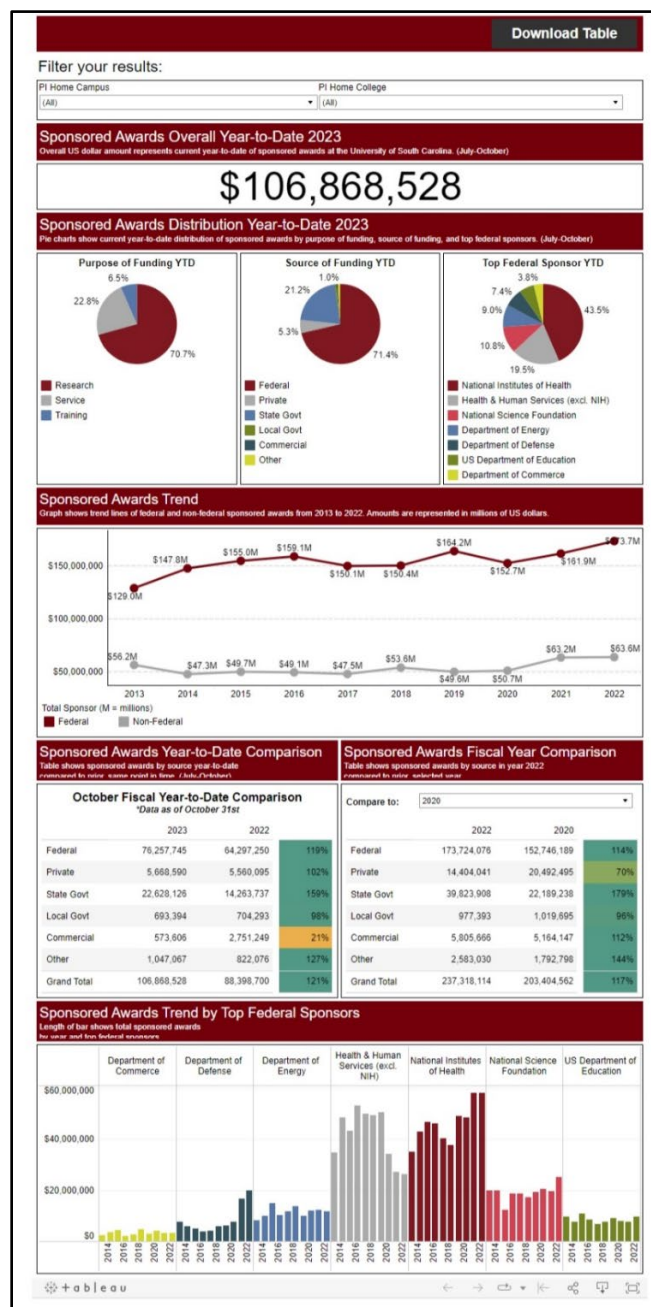
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Introduction to Research Dashboards

These Research Dashboards were developed to provide the latest data on incoming sponsored awards funding and an annual update on research expenditures. By sharing this information with the USC research community, the Office of the Vice President for Research aims to empower our colleagues throughout the USC system with the insights they need to make strategic decisions to advance their own research interests along with the broader research mission of our institution. Both dashboards are built on Tableau data visualization software.

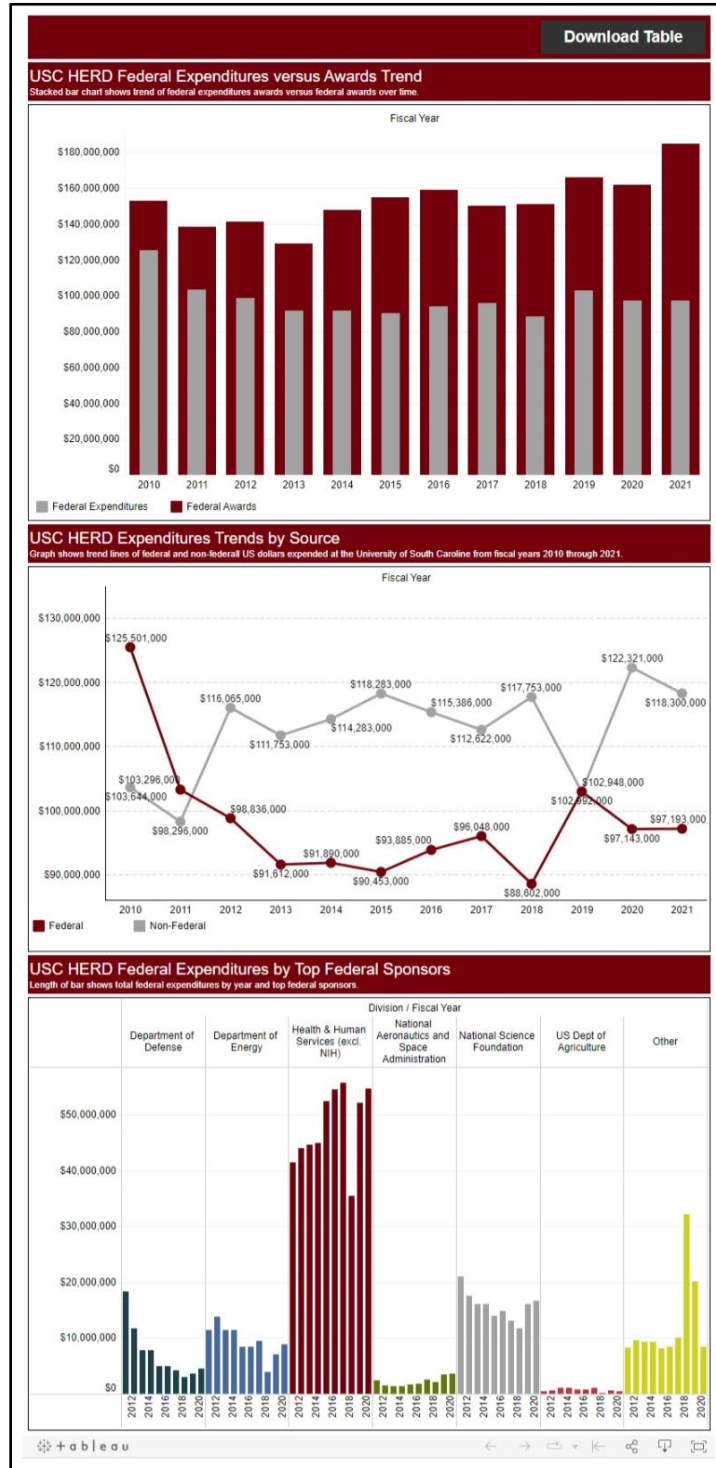
The Sponsored Awards Dashboard

This dashboard is updated monthly with the latest funding data to provide a variety of views and charts reflecting different funding comparisons and details, with significant customization options (explained in the “Understanding the Sponsored Awards Dashboard” section beginning on page 8 of this guide).



The Research Expenditures Dashboard

This dashboard is updated once a year with research expenditure data prepared for the NSF HERD Survey. This dashboard provides views of USC’s research expenditures over time and is separated by the type of funding expenditures represented—federal and non-federal. The Research Expenditures Dashboard is explained in detail in the “Understanding the Research Expenditures Dashboard” section of this guide, beginning on page 14.



Interacting with Research Dashboards: Common Features

This section provides an overview of functionality available in both Research Dashboards when using a laptop or desktop computer. Each dashboard also has unique features that are explained in the sections after this one.

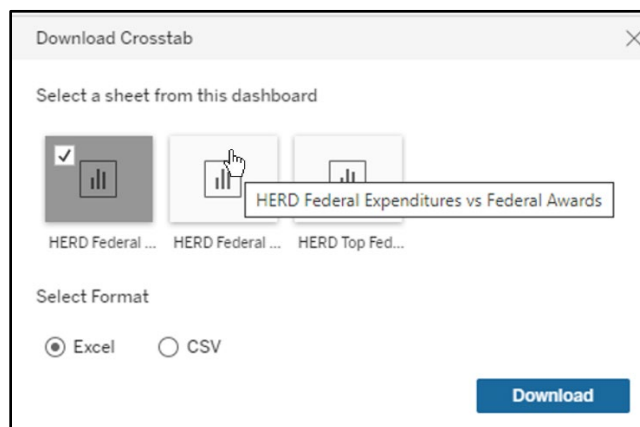
The Download Table button



In both Research Dashboards, the “Download Table” button (circled above) allows the user to download a .csv or .xlsx spreadsheet populated with the data underlying the various sections of the selected dashboard (the Research Expenditures Dashboard is shown here, but the “Download Table” button appears in the upper right-hand corner of both dashboards.)

For example, on the Research Expenditures Dashboard, a user can click “Download Table” to download a spreadsheet with data from any of the three sections there: USC HERD Federal Expenditures versus Award Trend, USC HERD Expenditures Trends by Source or USC HERD Federal Expenditures by Top Federal Sponsors. (Each of these sections is explained in the “Understanding the Research Expenditures Dashboard” section of this guide, beginning on page 14.) Users may download spreadsheets of all three sections, but they must do so one at a time (the dashboards do not offer downloads of multiple sections in one spreadsheet).

Clicking the “Download Table” button will launch a “Download Crosstab” popup menu like the one shown below, through which the user can select the section of the dashboard they would like to download as a spreadsheet.

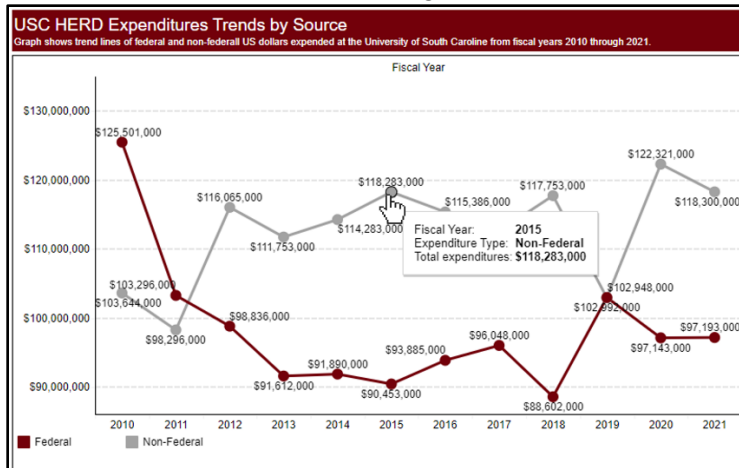


TIP: Hover over the sheet icons inside of the popup menu to view the full name of the spreadsheet/dashboard section as a tooltip, as shown in the screenshot above.

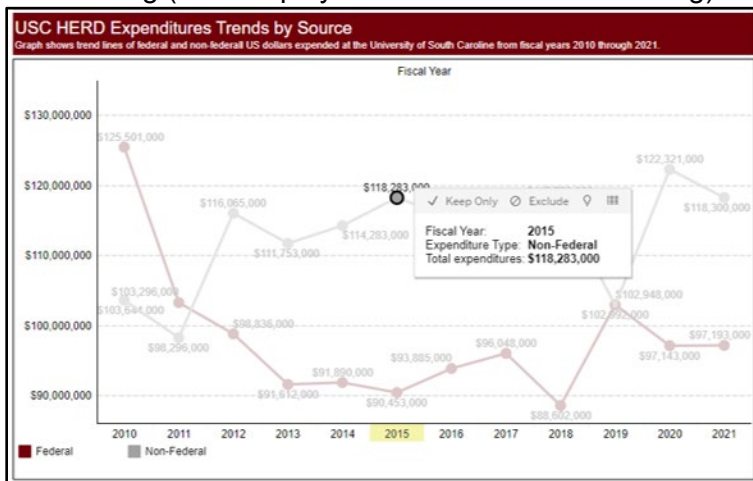
Hovering and Clicking for Details

To view a snapshot of the data underlying both Research Dashboards, users can hover over a data point to display a tooltip with more details, then click to highlight the data point while the underlying details continue to display in a highlight popup. When you are finished viewing an area you have clicked/highlighted, simply click again to deselect and unhighlight it.

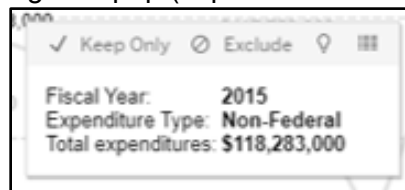
Hovering



Clicking (data displays without continued hovering)



Highlight Popup (expanded from above)



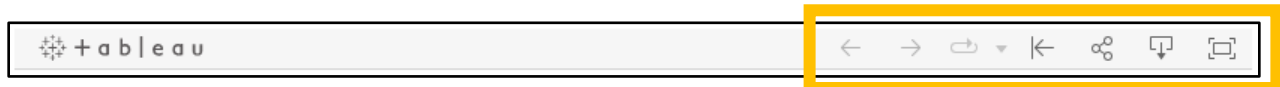
When a data point is clicked/highlighted, the user can select from several options along the top of the highlight popup. From left to right, these options are:

- **Keep Only:** Reconfigures the dashboard view to show only the selected data point.

- Exclude: Reconfigures the dashboard view to show all data except for the selected data point.
- Lightbulb Icon/Explain Data: Displays a popup with more details about the selected data point.
- Spreadsheet Icon/View Data: Launches a new Tableau window displaying a summary table showing more details about the selected data point.

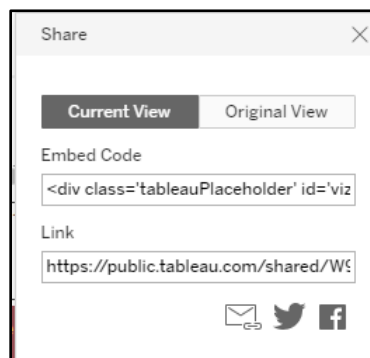
The Tableau Toolbar

Along the bottom of both Research Dashboards is a grey Tableau software toolbar, shown below. Each toolbar displays the same function buttons, although some are “greyed out” and unavailable when they do not apply.

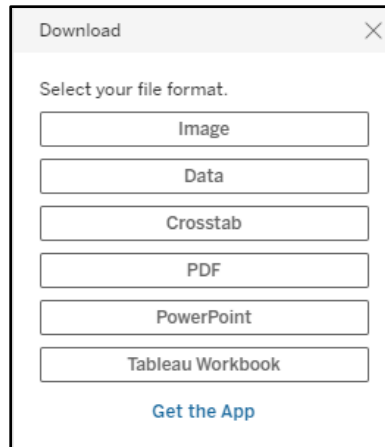


The Tableau toolbar functions include, from left to right in the orange box above:

- Back Arrow Button: Undoes any customization the user has made to the dashboard.
- Forward Arrow Button: Redoes any customization the user previously made to the dashboard.
- Circular Arrow Button: “Replays” the dynamic movement of the last dashboard customization the user made (the upside-down triangle allows the user to select a replay speed).
- Back Arrow with Line Button: Resets the dashboard to the default view, removing any customizations the user has made.
- Share Button (three circles connected with lines): Launches a popup (shown below) that allows the user to share the dashboard in its current view with any customizations, or in the original/default view. The user can opt to share either view option as copyable html embed code, a copyable web link, an email with a web link in it, a Twitter post or a Facebook post.



- **Download Button (box with downward-pointing arrow):** Launches a popup (shown below) that offers the user different format options in which they can download the dashboard. (This popup also includes a link to get the Tableau app.)



Download Popup options:

- **Image:** Downloads an image of the dashboard in a .png file format.
 - **Data:** Launches a new Tableau window displaying a table with the dashboard data, which the user can navigate to further explore the desired information.
 - **Crosstab:** Generates a popup with options for the user to download different sections of the dashboard as a .csv or .xlsx file, just like the “Download Table” button discussed on page 4 of this guide.
 - **PDF:** Launches a popup that allows the user to generate a PDF file with the desired view of the dashboard or the whole dashboard. The user can choose the image scaling in the PDF, the PDF’s page size (letter, legal, etc.) and the PDF’s orientation (landscape or portrait) through the popup.
 - **PowerPoint:** Launches a popup that allows the user to download a PowerPoint slide (.pptx file format) displaying the desired view of the dashboard or the whole dashboard.
 - **Tableau Workbook:** Generates a popup through which the user can download the dashboard as a Tableau workbook (.twbx file format) for the current version of Tableau, or a past version.
- **Full-Screen View Button (box with arrows pointing out of corners):** Launches a full-screen view of the dashboard. To close the full-screen view and return to the browser window, hit the escape key on your keyboard.

Understanding the Sponsored Awards Dashboard

[The Sponsored Awards Dashboard](#) is updated monthly with the latest data from USCeRA, USC's electronic research administration system. This dashboard provides data on sponsored awards funding that has been officially awarded to USC researchers in the current fiscal year. The months reflected in the dashboard are clearly indicated by the header bar of each dashboard section. Some sections of the Sponsored Awards Dashboard display data reflecting one or more past full fiscal years; in those cases, the data is labeled by fiscal year.

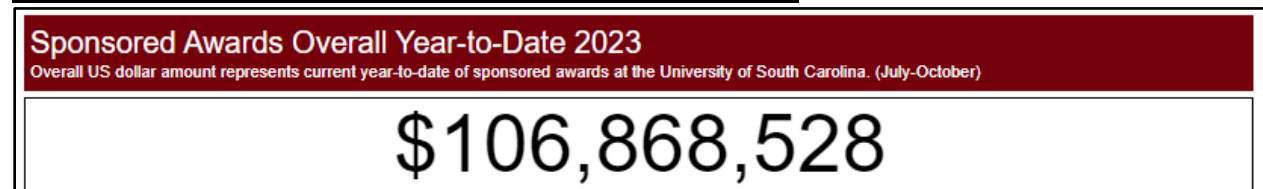
Users of the Sponsored Awards Dashboard will find a wealth of data visualized and detailed in the interactive tool. For those interested in even more, the Office of IT and Data Management, a unit of the Office of the Vice President for Research, offers more detailed data on sponsored awards funding, including reports displaying awards by month or fiscal year, division, unit, principal investigator and more through [their website](#).

Sponsored Awards Dashboard Sections

The Sponsored Awards Dashboard is separated into six sections, or views, each of which provides visualization and details on one aspect of USC's incoming sponsored awards. Below are details on what users will find in each section inside of the Sponsored Awards Dashboard, from top to bottom.

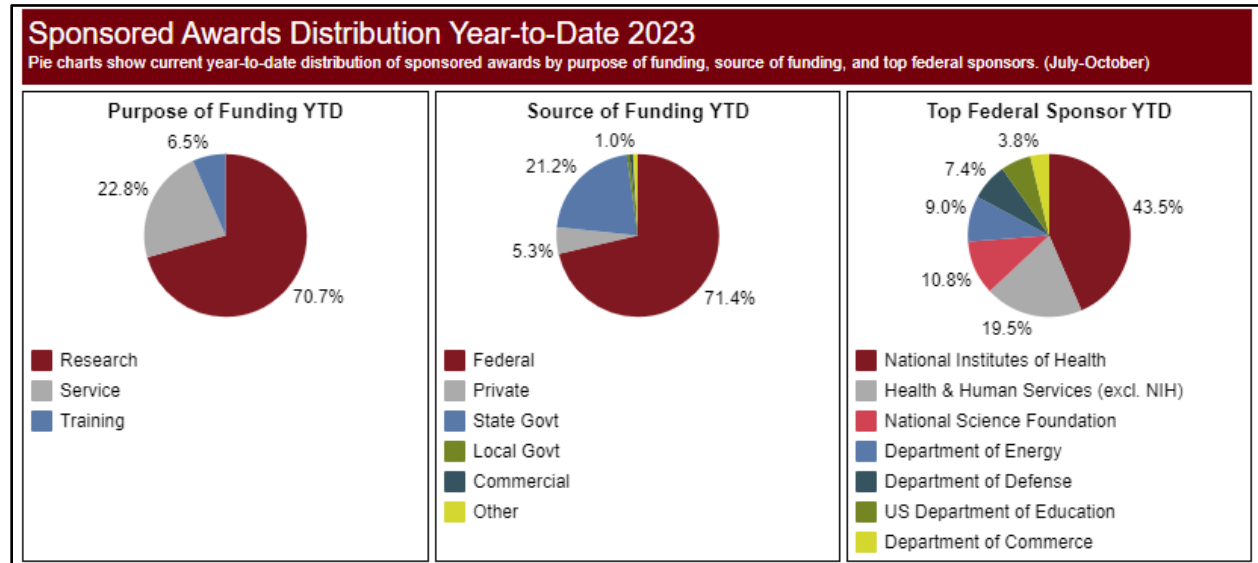
Please note that users can interact with the Sponsored Awards Dashboard as explained in "Interacting with Research Dashboards: Common Features," beginning on page 4 of this guide. (**NOTE:** The Sponsored Award Dashboard's filtering functionality is explained beginning on page 12 of this guide.)

Sponsored Awards Overall Year-to-Date Current Fiscal Year



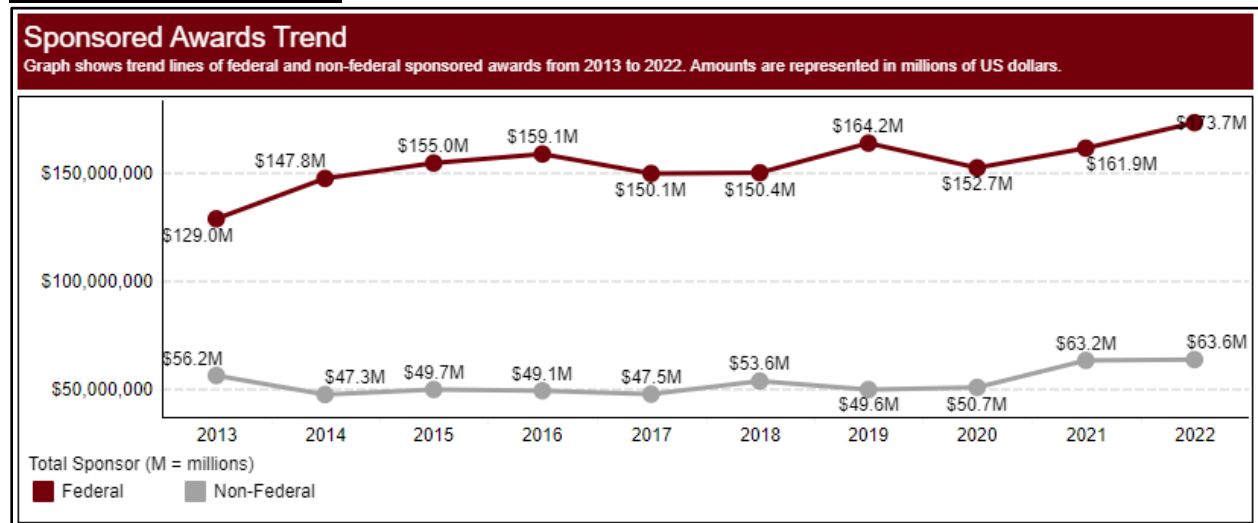
Shows the total dollar amount of sponsored awards received so far in the current fiscal year. The screenshot above displays the total sponsored awards funding received in fiscal year 2023 between July 1, 2022 and October 31, 2022.

Sponsored Awards Distribution Year-to-Date Current Fiscal Year



Displays the sponsored awards received so far in the current fiscal year as pie charts that break out funding by Purpose (either research, service or training), Source of Funding (federal, private, state, etc. funding sources) and Top Federal Sponsors.

Sponsored Awards Trend



This line chart shows the past 10 fiscal years of sponsored awards (full fiscal years only), broken out into a garnet line detailing federal funding and a grey line representing all other non-federal funding sources combined.

Sponsored Awards Year-to-Date Comparison

Sponsored Awards Year-to-Date Comparison			
Table shows sponsored awards by source year-to-date compared to prior same point in time (July-October)			
October Fiscal Year-to-Date Comparison			
*Data as of October 31st			
	2023	2022	
Federal	76,257,745	64,297,250	119%
Private	5,668,590	5,560,095	102%
State Govt	22,628,126	14,263,737	159%
Local Govt	693,394	704,293	98%
Commercial	573,606	2,751,249	21%
Other	1,047,067	822,076	127%
Grand Total	106,868,528	88,398,700	121%

Allows users to view the current fiscal year’s year-to-date sponsored awards funding (left-most grey column) with the sponsored awards funding in the previous fiscal year, at the same point in time (middle grey column). The right-most column shows the difference between the same point in time across the two fiscal years using both percentages and “heat map” color coding. Each column displays sponsored awards broken out by source, along with the grand total.

The screenshot above displays the total sponsored awards funding received in fiscal year 2023 between July 1, 2022 and October 31, 2022 in the left-most column. In the middle grey column, it displays the total sponsored awards funding received in fiscal year 2022 between July 1, 2021 and October 31, 2021. The right-most column shows that there have been significant increases funding for the July-October period in fiscal year 2023 as compared to July-October in fiscal year 2022.

Sponsored Awards Fiscal Year Comparison

Sponsored Awards Fiscal Year Comparison			
Table shows sponsored awards by source in year 2022 compared to prior selected year			
Compare to:	2020		
	2022	2020	
Federal	173,724,076	152,746,189	114%
Private	14,404,041	20,492,495	70%
State Govt	39,823,908	22,189,238	179%
Local Govt	977,393	1,019,695	96%
Commercial	5,805,666	5,164,147	112%
Other	2,583,030	1,792,798	144%
Grand Total	237,318,114	203,404,562	117%

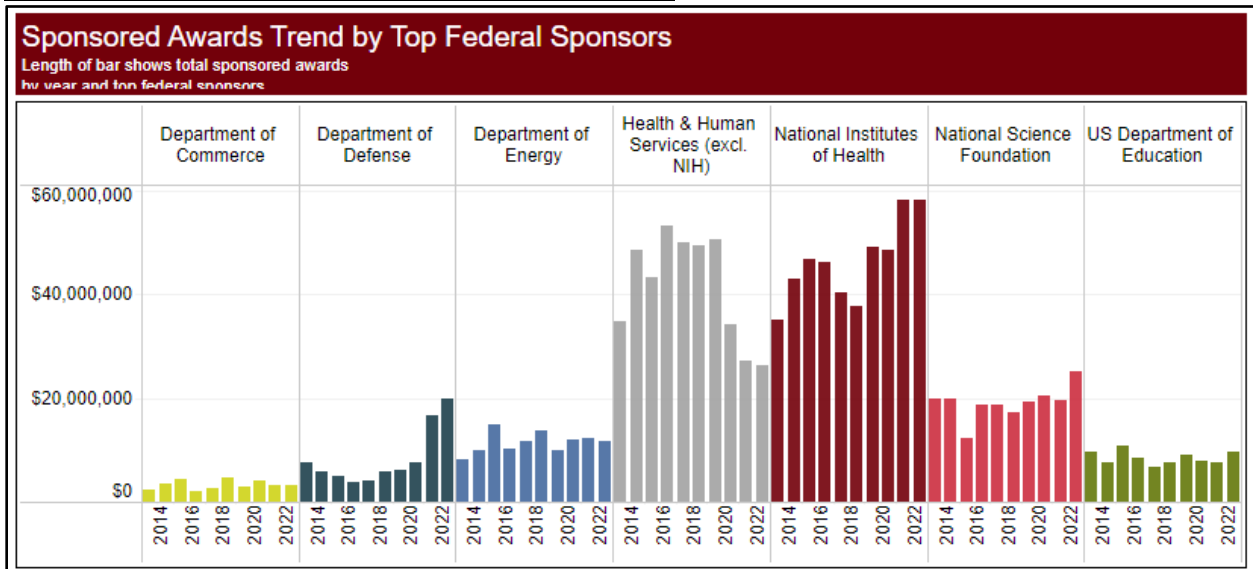
Employs the same visualization style as the “Sponsored Awards Year-to-Date Comparison” section discussed above, but instead of displaying year-to-date data, this view shows the most

recent full fiscal year of data on sponsored awards, and offers functionality to compare that full fiscal year to other past full fiscal years.

The left-most grey column displays the most recent full fiscal year of sponsored awards funding, the middle grey column displays a comparison year, selected by the user, and the right-most column shows the differences between the two fiscal years as both percentages and using “heat map” color coding. Each column displays sponsored awards broken out by source, along with the grand total.

Users can select from the “Compare to” dropdown list at the top of this section to choose a fiscal year to display in the center column, for comparison against the most recent fiscal year. For example, the screenshot above shows a comparison between fiscal year 2022 funding in the left-most column with fiscal year 2020 funding in the middle grey column. The “Compare to” dropdown options include the past 10 full fiscal years of sponsored awards data.

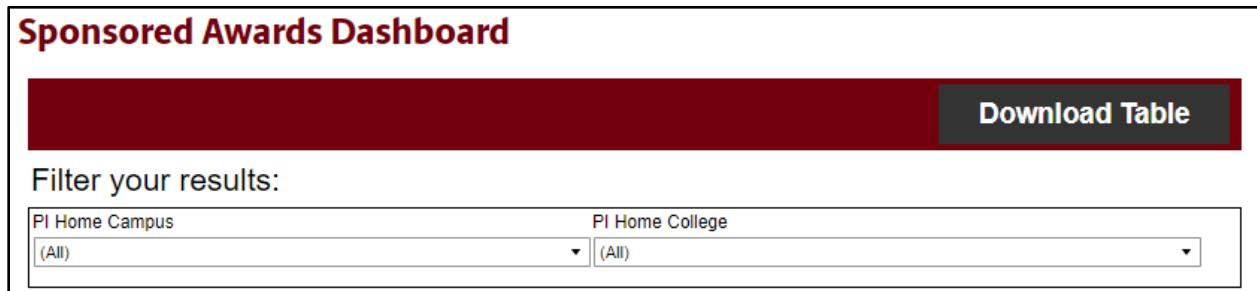
Sponsored Awards Trend by Top Federal Sponsors



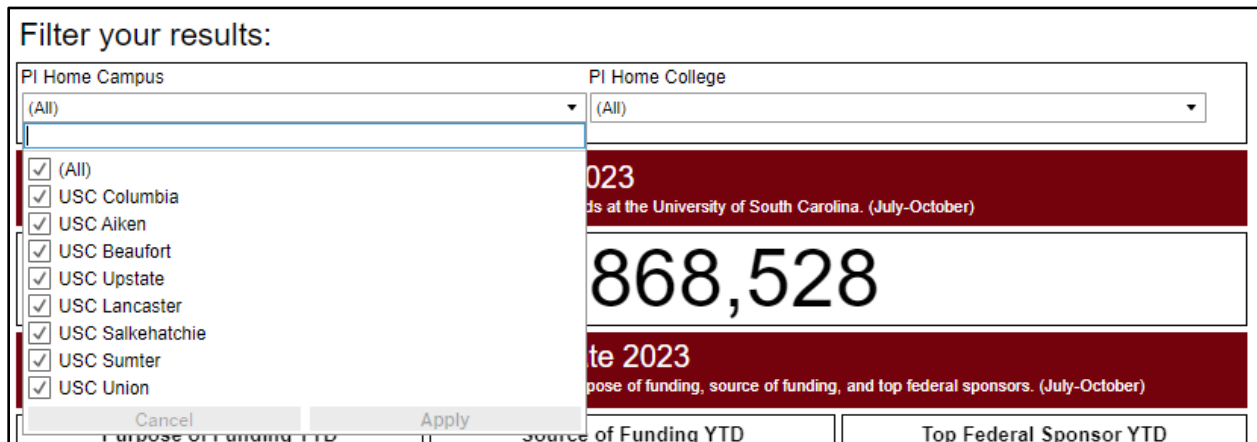
Displays a series of bar charts showing the past five years of federal funding broken out by USC’s seven top federal agency sponsors. (**NOTE:** Not all federal funding is represented in this set of bar charts because it does not include funding from all federal sponsors, only USC’s top seven federal sponsors.)

Filtering the Sponsored Awards Dashboard

By default, the Sponsored Awards Dashboard displays data that includes sponsored awards garnered by faculty working in all campuses and colleges/schools in the University of South Carolina System. But, all sections of the Sponsored Awards Dashboard can be filtered using the two “Filter your results” dropdown lists at the very top of the dashboard (shown below). This allows users to zoom in and view visualizations of the sponsored awards data only from one or more selected campuses, colleges or schools, as specified by the user.



The “PI Home Campus” dropdown box on the left allows users to select a dashboard view displaying one or more specific USC campuses, as shown below.



TIP: The screenshot above shows all campuses are selected, which is the default dashboard view. Users can click the check mark next to the “(All)” to de-select all campuses, and then click the corresponding box(es) to choose only the desired campus(es).

The “PI Home College” dropdown box on the right (shown below) functions much like the campus dropdown explained on the previous page, with two key differences:

1. Users can select only one PI Home College, rather than one or more as with the campus dropdown.
2. Users can choose from any USC Columbia college/school (Arnold School of Public Health, College of Arts and Sciences, etc.) OR any USC campus, using the PI Home College dropdown list.

Filter your results:

PI Home Campus

(All)

PI Home College

(All)

- (All)
- Arnold School of Public Health
- College of Arts and Sciences
- College of Education
- College of Engineering & Comp.
- College of Information & Comm.
- College of Nursing
- College of Pharmacy
- College of Social Work
- Darla Moore School of Business
- Hosp., Retail, & Sport Mgmt
- School of Law
- School of Medicine
- School of Medicine (Grvl)
- School of Music
- USC Aiken
- USC Beaufort
- USC Upstate
- USC Lancaster
- USC Salkehatchie
- USC Sumter
- USC Union
- All Other Home Departments

Sponsored Awards Overall Year-to-Date 20

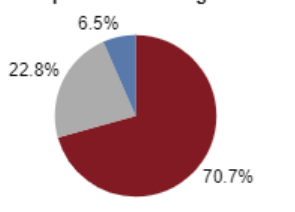
Overall US dollar amount represents current year-to-date of sponsored awards

\$106,

Sponsored Awards Distribution Year-to-Date

Pie charts show current year-to-date distribution of sponsored awards by purpose and source

Purpose of Funding YTD



6.5%

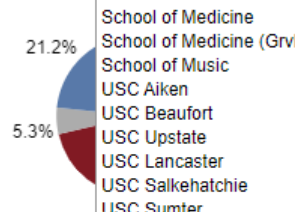
22.8%

70.7%

■ Research

■ Service

Source



21.2%

5.3%

■ Federal

■ Private

TIP: Users can download a spreadsheet reflecting their filter selections by clicking the “Download Table” button in the upper right-hand corner of the Sponsored Awards Dashboard (explained on page 4 of this guide).

Understanding the Research Expenditures Dashboard

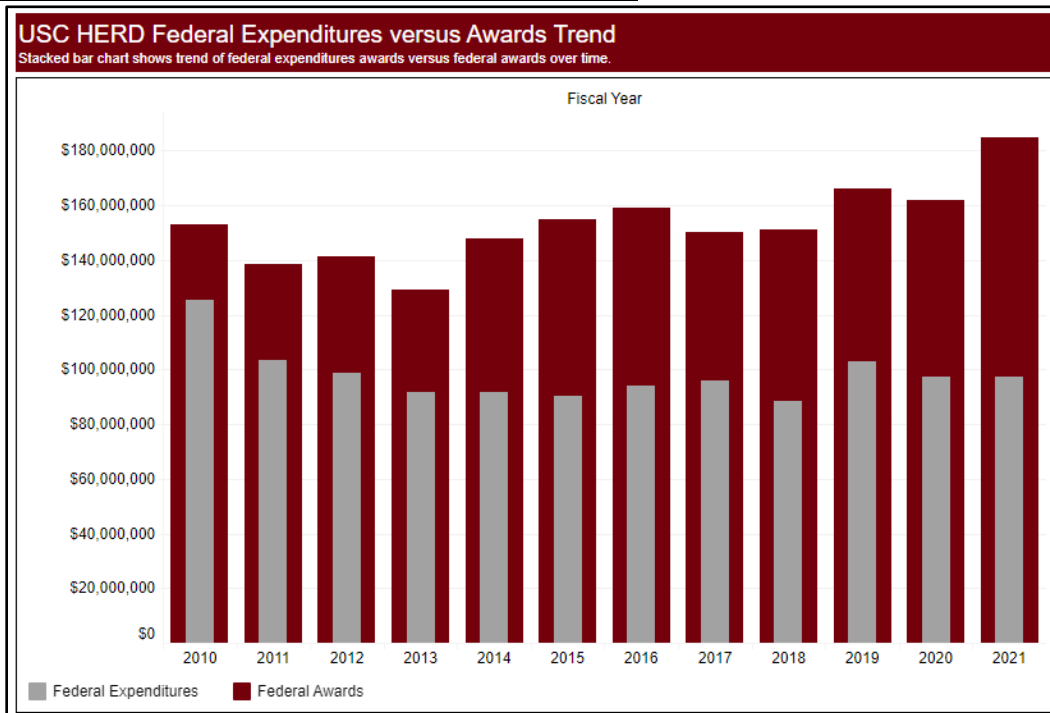
The [Research Expenditures Dashboard](#) is updated annually with the latest data from the NSF HERD Survey. This dashboard displays data on USC’s research spending, with expenditure data separated into expenditures from funding provided by federal sponsors and all other non-federal sponsors.

Research Expenditures Dashboard Sections

The Sponsored Awards Dashboard is separated into three sections, or views, each of which provides visualization and details on one aspect of USC’s research expenditures. Below are details on what users will find in each section (or view) inside of the Research Expenditures Dashboard, from top to bottom.

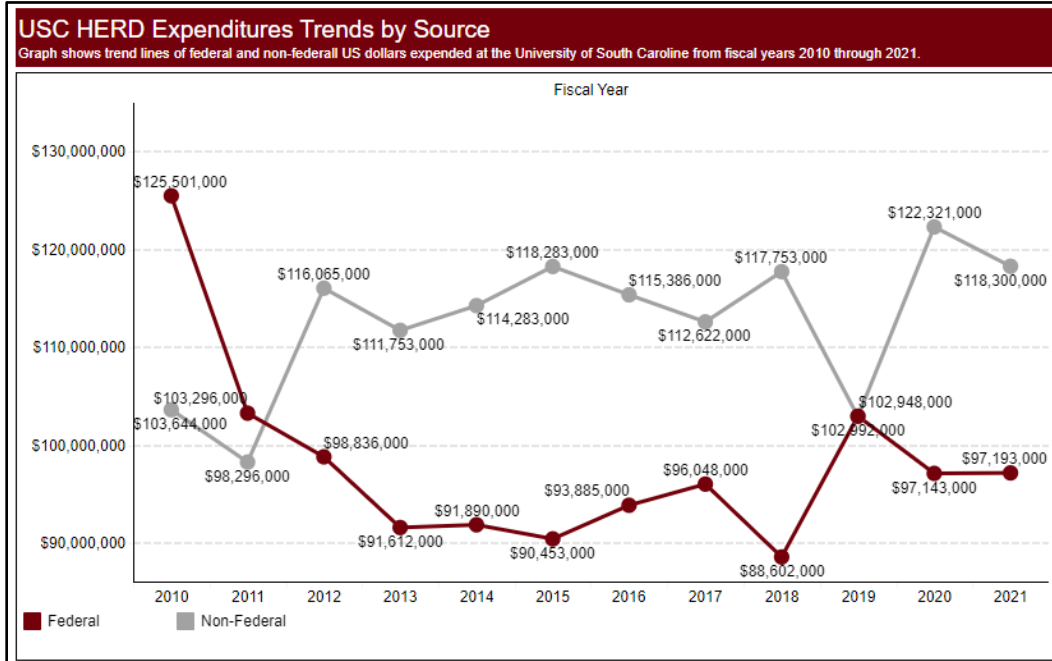
Please note that users can interact with the Research Expenditures Dashboard as explained in “Interacting with Research Dashboards: Common Features,” beginning on page 4 of this guide. (**NOTE:** The Research Expenditures Dashboard does not offer additional filtering options.)

USC HERD Federal Expenditures versus Awards Trend



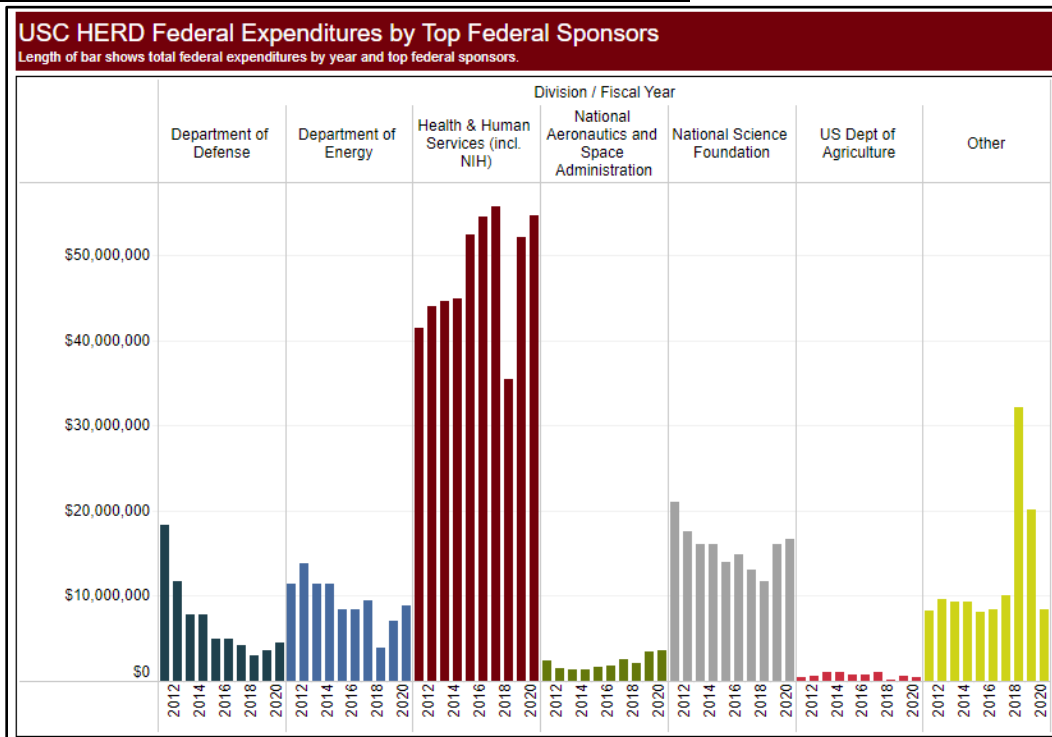
Displays a stacked bar chart showing the past twelve fiscal years of incoming sponsored awards from federal sources (garnet bars) with the year’s federal expenditures stacked on top (grey bars).

USC HERD Expenditures Trends by Source



Shows two lines detailing research expenditures over the past 12 years. The dark red line represents expenditures on sponsored awards from federal sources, and the grey line shows research expenditures on non-federal funding.

USC HERD Federal Expenditures by Top Federal Sponsors



Displays a series of bar charts showing the past 12 years of USC's research expenditures from 6 of the top federal sponsors and all other federal sponsors.